



2021 Triennial Review of Water Quality Standards

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Water Quality Standards Coordinator

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Protecting Maine's Air, Land and Water

Presentation

- Overview of Triennial Review process
- Proposals



East Branch Penobscot River
Katahdin Woods & Waters National Monument
Photo: National Park Service



Process to Date

- Received proposals in spring 2020
- Internally reviewed proposals
- Developed draft recommendations



Mount Blue Stream, Avon



Public Input Phase

- Written public comment period from April 26 to May 26
- Virtual public meeting on May 21, 2021

Meeting Registration

Topic DEP Triennial Review public comment meeting

Description DEP meeting to receive public comment on Triennial Review of water quality standards

Time May 21, 2021 09:00 AM in [Eastern Time \(US and Canada\)](#)

First Name* Last Name*

Email Address* Confirm Email Address*

* Required information

[Register](#)



Next Steps

- Review and respond to comments
- Re-evaluate DEP draft recommendations
- Present revised recommendations to Board of Environmental Protection



Orbeton Stream, Madrid TWP



Next Steps

- Board of Environmental Protection
 - Conduct public hearing and comment phase on recommendations
 - Work session to develop final recommendations for Legislature
 - Vote



Twitchell Brook, Greenwood



Next Steps

- Legislature
 - Conducts public hearing
 - Makes final state determination
- EPA must approve WQS changes before become effective



Schedule

Winter 2020	Received proposals
Winter 2020 to Spring 2021	Prepared DEP draft Triennial Review package
Spring 2021	Public review of proposed changes, including virtual public meeting
Summer to Fall 2021	Board of Environmental Protection (BEP) public hearing/comment phase, work session
Late Fall 2021	BEP final vote on Triennial Review package
Winter 2021/2022	Submit statutory changes for Legislative approval
Winter/Spring 2022	Legislative vote on proposed changes

Submittal to EPA for approval



Proposals for WQS Changes

Submitted by	Type	Topic
EPA	Statutory change	Protection and improvement laws
EPA	Statutory change	Freshwater pH range (lower end)
	Statutory change	Freshwater pH range (upper end)
	Statutory change	Definition of Outstanding National Resource Waters
EPA	Statutory change	Natural conditions provisions
DEP	Statutory change	Aquatic life standards
IDEXX	Statutory change	Bacteria reporting units
EPA	Statutory change	Recreational water quality criteria
EPA	Statutory change	Shellfishing criteria
	Rulemaking	Water temperature in tidal waters
	Rulemaking	Surface water quality criteria for toxic pollutants
EPA	Rule	Mixing zone policy
EPA	Further investigation	Recreational WQS for cyanotoxins
City	Further investigation	Acid rain-based WQS
GE	Further investigation	Turbidity WQS

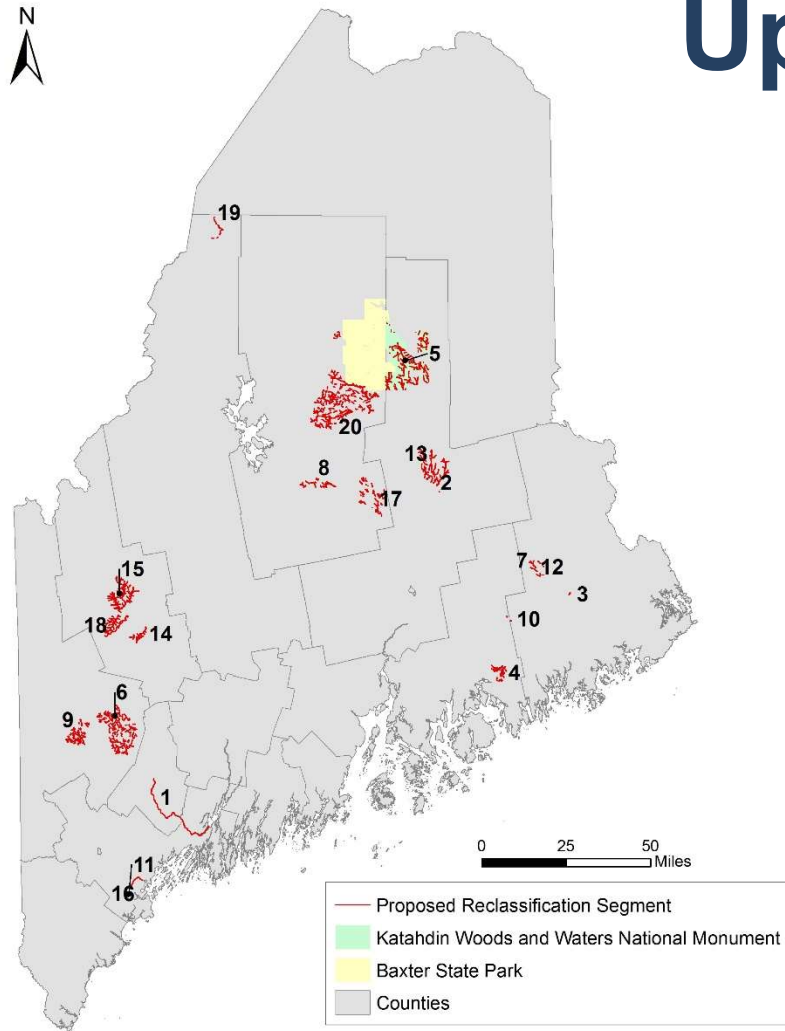
Statutory changes

Rulemaking

Further investigation



Upgrade Proposals



Key	Segment	Current Class	Proposed Class
1	Androscoggin River (below Gulf Island Pond)	C	B
2	Cambolasse Stream (below Rt. 2)	C	B
3	Chain Lakes Stream	A	AA
4	Donnell Pond tributaries	B	A
5	East and West Branch Penobscot River tributaries in Katahdin Woods and Waters National Monument	A	AA
6	East and West Branches Nezinscot River tributaries	B	A
7	Fletcher Brook and tributaries	A	AA
8	Houston Brook and tributaries	A	AA
9	Little Androscoggin River (upper) tributaries	B	A
10	Little Narraguagus River	A	AA
11	Long Creek (Westbrook)	C	B
12	Magazine Brook	A	AA
13	Medunkeunk Stream tributaries	B	A
14	Mount Blue Stream and tributaries	B	A
15	Orbeton Stream above Toothaker Pond Rd and tributaries	A	AA
16	Presumpscot River (below Saccarappa Falls)	C	B
17	Schoodic Stream and Scutaze Stream tributaries	B	A
18	South Branch Sandy River and Cottle Brook and tributaries	A	AA
19	Southwest Branch St. John River	A	AA
20	West Branch Penobscot River (upper) and tributaries	A	AA



Proposals for WQS Changes

- EPA proposals – background
 - Disapproved ME WQS in 2015
 - Promulgated WQS for ME in late 2016 – few statewide, most only waters in Indian Lands (WIL)
 - Will remain in place until ME updates WQS
 - If ME does that, EPA may withdraw their WQS



- | | | | |
|--|--|----------|------------------|
| Maine Legislature
Maine Revised Statutes | Session Law | Statutes | Maine State Code |
| § 464 PDF
§ 464 MS-WORD
STATUTE SEARCH


CH. 3 CONTENTS

TITLE 38 CONTENTS

LIST OF TITLES

MAINE LAW & DISCLAIMER

REVISOR'S OFFICE

MAINE LEGISLATURE | <p style="text-align: center;">  §463 </p> <p style="text-align: center;">Title 38: WATERS AND NAVIGATION</p> <p style="text-align: center;">Chapter 3: PROTECTION AND IMPROVEMENT OF WATERS</p> <p style="text-align: center;">Subchapter 1: ENVIRONMENTAL PROTECTION BOARD</p> <p style="text-align: center;">Article 4-A: WATER CLASSIFICATION PROGRAM</p> <hr/> <p>§464. Classification of Maine waters</p> <p>The waters of the State shall be classified in accordance with this article. [PL 1985, c. 698, §15 (NEW).]</p> <ol style="list-style-type: none"> Findings, objectives, purpose. The Legislature finds that the proper management of the State's water resources is of great public interest and concern to the welfare, in preventing disease, in promoting health, in providing habitat for fish, shellfish and wildlife, as a source of recreational opportunity, and as a resource for commerce. The Legislature declares that it is the State's objective to restore and maintain the chemical, physical and biological integrity of the State's waters and to preserve certain characteristics of those uses for each class of water and which also establish water quality criteria necessary to protect those uses and related characteristics. The Legislature further declares that in order to achieve this objective the State's goals are: <ol style="list-style-type: none"> That the discharge of pollutants into the waters of the State be eliminated where appropriate; [PL 1985, c. 698, §15 (NEW).] That no pollutants be discharged into any waters of the State without first being given the degree of treatment necessary to allow those waters to attain their designated uses; [PL 1985, c. 698, §15 (NEW).] That water quality be sufficient to provide for the protection and propagation of fish, shellfish and wildlife and provide for recreation in and on the water. [PL 1985, c. 698, §15 (NEW).] <p>The Legislature intends by passage of this article to establish a water quality classification system which will allow the State to manage its surface waters so as to protect and enhance water quality standards and to ensure that water quality standards are not being achieved, to enhance water quality. This classification system shall be based on water quality standards which are established for each class of water and which also establish water quality criteria necessary to protect those uses and related characteristics. The Legislature</p> | | |



Proposals for WQS Changes

Statutory Changes

Submitted by	Topic
EPA	Protection and improvement laws
EPA	Freshwater pH range (lower end)
DEP	Freshwater pH range (upper end)
DEP	Definition of Outstanding National Resource Waters
EPA	Applicability of natural conditions provisions
DEP	Aquatic life standards
IDEXX	Bacteria reporting units
EPA	Recreational water quality criteria
EPA	Shellfishing criteria



Protection and Improvement Laws

- Existing provision allows waiver of WQS to assist in oil spill response activities
- EPA: disapproved waiver (statewide)
- DEP: proposes to remove
- No issues as other provisions in place to allow effective spill response



DEP marine oil spill response vessel



Freshwater pH Range

- Current range 6.0 - 8.5
- EPA: 6.5 is more protective of sensitive aquatic organisms (WIL)
- DEP: 9.0 occurs naturally in certain areas
- Propose change range to 6.5 – 9.0 (statewide)
- No issues expected

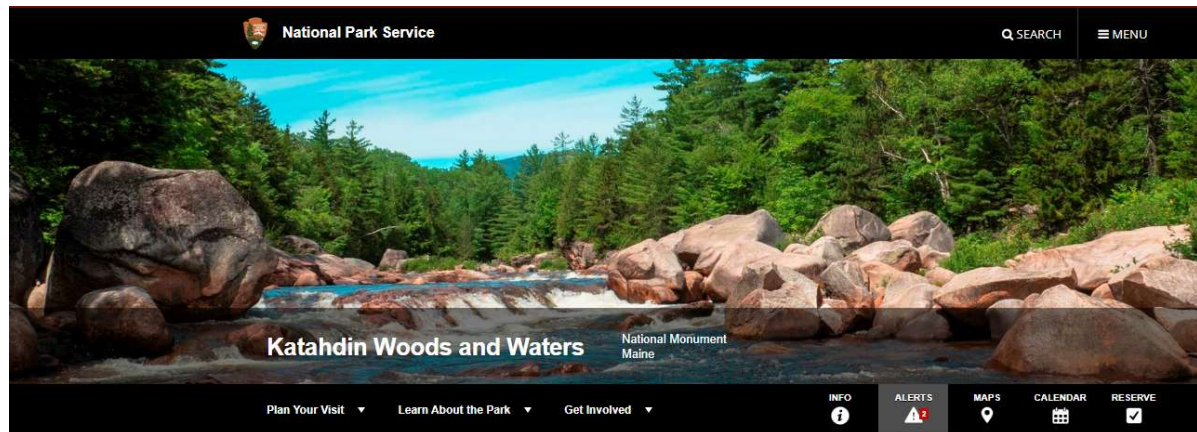


Atlantic salmon eggs and hatched fish (Science Photo Library)



Definition of ONRWs

- ‘Outstanding National Resource Waters’ – have special protections
- Includes waters in protected lands, also Class AA and SA
- DEP: include National Monuments
- No issues expected



Natural Conditions Provisions

- If WQS not attained due to natural conditions
 - waters not impaired
- EPA: do not apply to criteria that protect human health (toxics, bacteria) (WIL)
- Implementation issues – not proposing a change
 - Two sets of criteria in effect



Beaver (Getty Images)



Aquatic Life Standards

- Current:
 - Classes B, C, SB, SC: protection of aquatic life (AL) in relation to discharge provisions
 - Class GPA: provide natural habitat for AL
- DEP: clarify that existing standards contain enforceable narrative AL criteria
- No issues expected – only clarification



Mayfly (Discover Life)



Bacteria Reporting Units

- Currently only allow Colony Forming Units (CFU)
- IDEXX: expand to include Most Probable Number (MPN)
- Propose to add MPN
- No issues



Quanti-Tray/2000 IDEXX



Recreational Water Quality Criteria

- Bacteria in Classes B, C, SB and SC
- Currently only April 15th to October 31st
- EPA: applicable year-round (WIL)
- Implementation issues – not proposing to change
 - Two sets of criteria in effect
- Still seeking feedback



Getty Images



Shellfishing Criteria

- Currently: National Shellfish Sanitation Program (NSSP) criteria in Classes SB and SC
- EPA: added to Class SA (WIL)
- DEP: propose to add to Class SA (statewide)
- No issues expected



Downeast Institute



Rulemaking

- Deferred rulemaking:
 - Amend regulations relating to tidal temperature (Ch. 582)
 - Amend surface water quality criteria for toxic pollutants relating to the protection of aquatic life (Ch. 584)
- Future rulemaking: new mixing zone rule
 - Currently 38 M.R.S. Section 451



(Pixabay)



Further Investigation

- Development of:
 - Recreational WQS for cyanotoxins
 - Acid rain-based WQS
 - Turbidity WQS



Further Investigation

- Develop recreational WQS for cyanotoxins
- Proposed by: EPA
- Basis for proposal: new federal criteria to protect public health
- DEP recommendation:
 - Investigate multiple questions
 - Collaborate with ME CDC to develop criteria
 - Consult with stakeholders
 - Adopt criteria



Sabattus Pond



Further Investigation

- Develop acid rain-based WQS
- Proposed by: Citizen
- Basis for proposal:
 - Widespread water quality problems and aquatic life impairment due to high acidity
 - Need to identify impaired waters to support restoration projects



Atlantic salmon eggs and hatched fish (Science Photo Library)



Further Investigation

- DEP recommendation:
 - Investigate multiple questions to inform process
 - Continue development of bioassessment model for stream fish
 - Continue development of aluminum criteria



Brook trout



Further Investigation

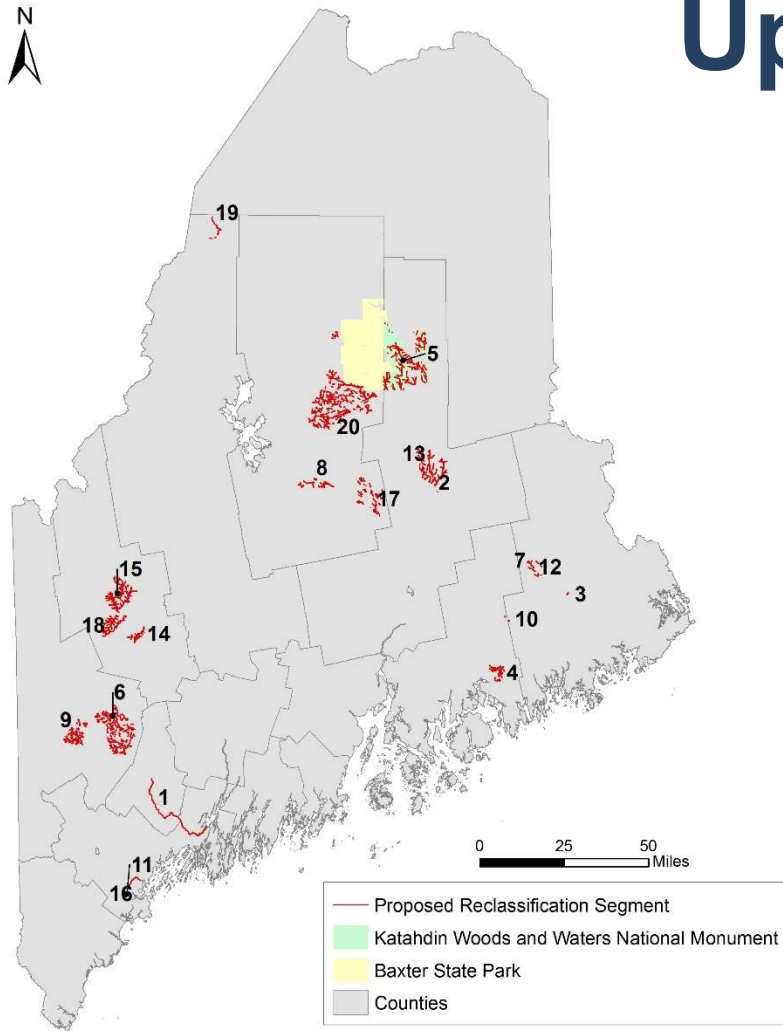
- Develop turbidity WQS
- Proposed by: Friends of Graham Lake (FOGL)
- Basis for proposal: lack of WQS prevents control of sedimentation due to human sources
- DEP recommendation:
 - Investigate multiple questions to inform process



Union River below Graham Lake (FOGL)



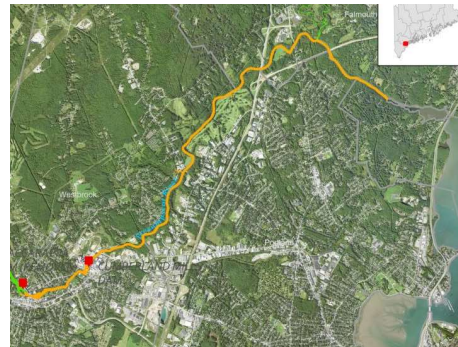
Upgrade Proposals



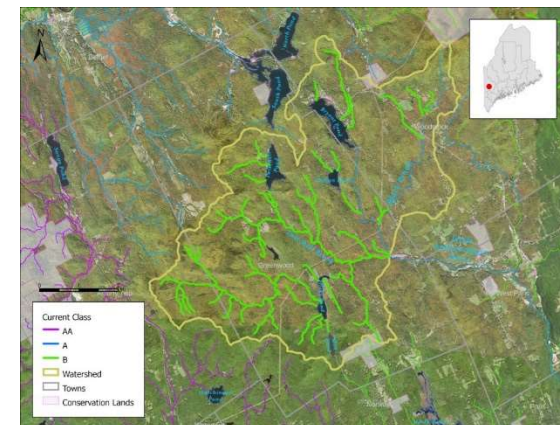
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Evaluation

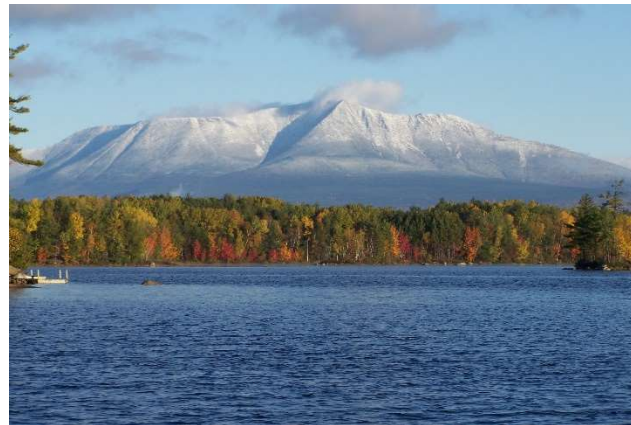
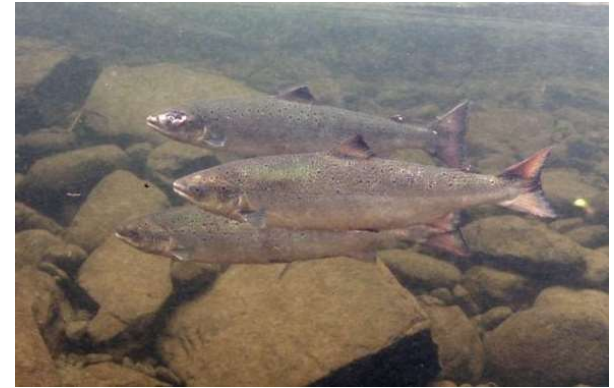
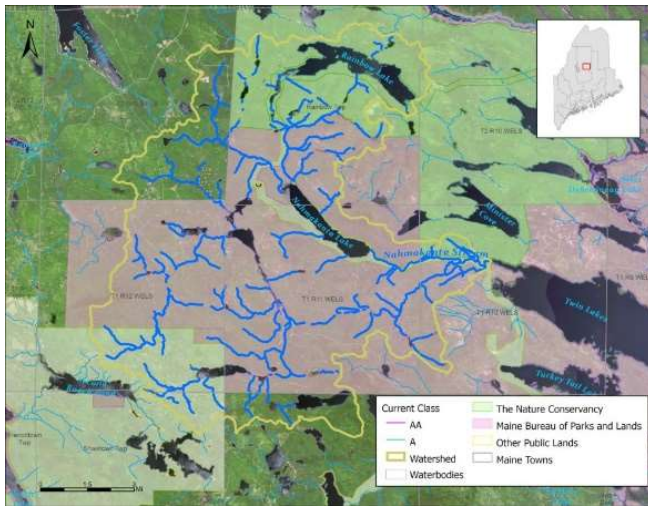


<div style="text-align: center;"> Maine Department of Environmental Protection Biology Monitoring Program Aquatic Life Classification Information Report </div>					
Station Number: 5-440			Flow Basin: Kennebec		
Watershed: Orono Stream - Station 540			Flow Basin Name: Lower Kennebec		
Town: Montpelier			Latitude: 44.53 30 N		
Direction: -DOWN UPSTREAM OF REEDS MILL CREEK FLOWING TOWARD RECREATIONAL PARK FLOW TO WYE			Longitude: 70.24 42 W		
			Stream Order: 4		
Sample Information					
Log Number: 2579	Type of Sample: ROCK BASSET	Replicates: 3		Date Deployed: 7/24/2017	Date Retrieved: 8/21/2017
Classification Information					
Streamery Class: A	Final Determination: Reason for Determination: Model Comments:				Date: 3/16/2018
Model Results with P-2.6 A					
Date Last Calculated: 5/15/2018					
Model Probabilities					
First Stage Model		Class A or C		Class B or C	
Class A	0.00	0.00	0.00	1.00	0.00
Class B	0.16	NA	0.00	0.00	Non-attainment
Class C	0.84	0.00	0.00	1.00	0.00
2nd Stage Model		Class A		A Model	
Class A or B	0.00	0.00	0.00	0.00	1.00
Class B or C	Non-attainment	0.00	0.00	0.00	0.00
Model Validity					
01 Terrestrial Abundance	176.00	14	Relative Abundance: Ephemeroptera	0.23	
02 Ecoregion Richness	39.00	19	EPT Genera Richness	21.00	
03 Percentages Mean Abundance	21.33	21	Sum of Abundances: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	0.40	
04 Ephemeroptera Mean Abundance	44.33	21	Sum of Abundances: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	0.67	
05 Relative Percent Ecoregion Diversity	3.43	23	Relative Ecoregion Diversity: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	0.05	
06 Relative Benthic Index	3.65	23	Sum of Abundances: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	0.05	
07 Relative Abundance - Chironomidae	0.16	26	Sum of Abundances: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	3.67	
08 Relative Percent Relative Dignity	59.33	26	Sum of Abundances: Chironomidae, Hydropsychidae, Psephenidae, Trichoptera, Plecoptera, Ephemeroptera, Trichoptera, Plecoptera, Ephemeroptera	0.05	
09 Chironomidae Abundance	1.00	100	Percent of Class A Relative Total	0.74	
10 EPT Genera Richness	1.71	30	Percent of Class A Relative Total	1.14	
11 Relative Richness - Plecoptera	0.00	0.00	EPB Mean Dominance Table		
12 Relative Richness - Plecoptera	0.00	0.00	Final	Taxon Name	Percent
13 Relative Abundance - Plecoptera	0.00	0.00	1	<i>Hydropsychidae</i>	31.71
14 Relative Abundance - Plecoptera	0.00	0.00	2	<i>Baetis</i>	11.55
15 Relative Abundance - Plecoptera	0.00	0.00	3	<i>Psephenidae</i>	7.77
16 Relative Abundance - Plecoptera	0.00	0.00	4	<i>Trichoptera</i>	6.82
17 Chironomidae Abundance (Family Functional Group)	6.00	5	5	<i>Chironomidae</i>	4.55



Upgrade Proposals

Class AA: natural resources with ecological, social, scenic or recreational importance



Upgrade Proposals

- Recommend for upgrade: 18
- Not recommend for upgrade: 2
- Present grouped by type of upgrade (i.e. Class A to AA, B to A, C to B)



Fletcher Brook, T37 MD BPP



Upgrade Proposals to Class AA

- Class AA and SA waters are ONRWs
 - CWA: stormwater discharges are not allowed
 - ME: allowed with restrictions – disapproved by EPA in 2015
 - Difficult issue – no resolution, excluded from TR
 - ME provisions may be amended or eliminated later
 - could affect development potential

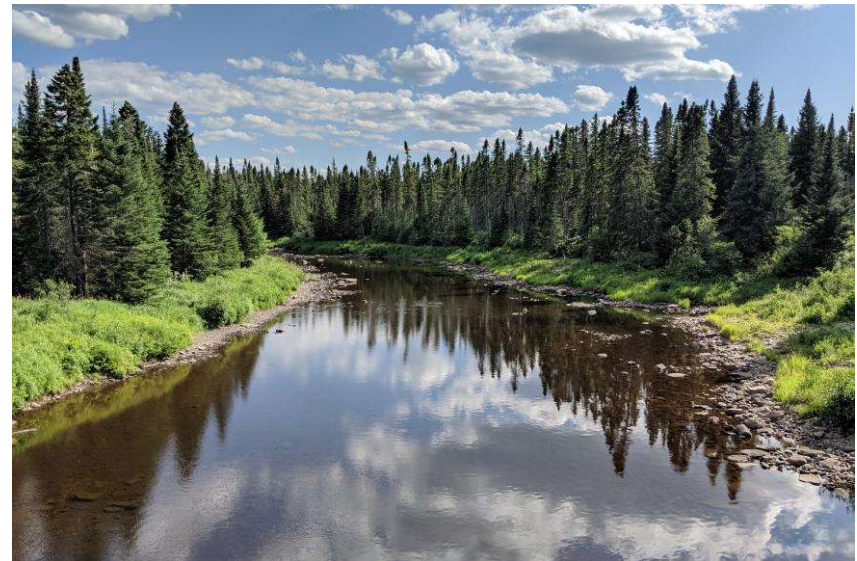


City of Waseca, MN



Class A to Class AA

- Location:
 - Kennebec (2 proposals), Machias (3), Narraguagus (1), Penobscot (3) and St. John River (1) basins
- Proposed by: DEP and The Nature Conservancy



Southwest Branch St. John River (TNC)



Class A to Class AA

Basis for proposals:

- Protect outstanding natural resources of ecological, social, scenic or recreational importance (all)
- Salmon protection (7)



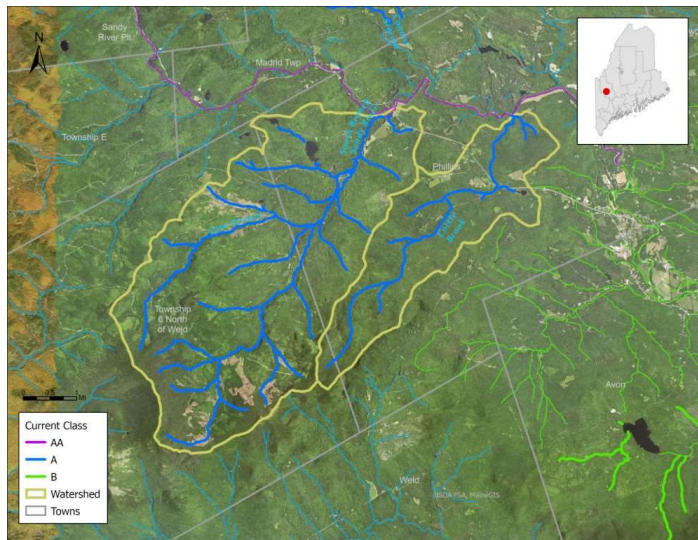
5th Debsconeag Stream (Nahmakanta Stream watershed, ME Natural Areas Program)



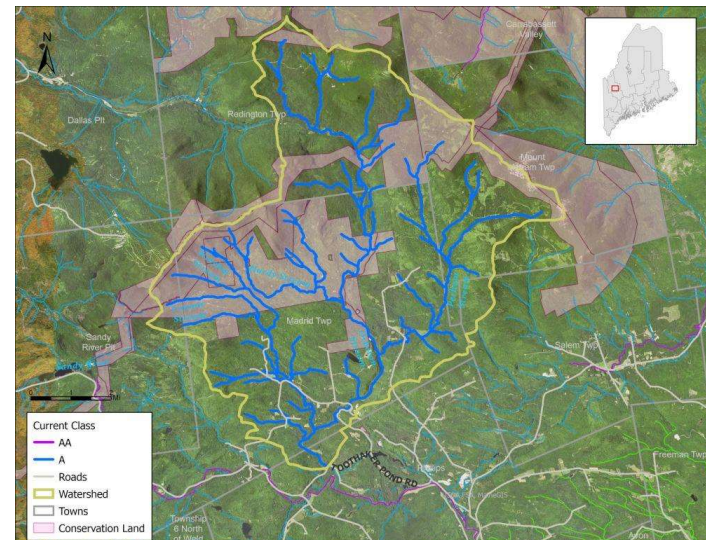
Class A to Class AA

Kennebec River Basin

South Branch Sandy River and Cottle Brook and Tributaries



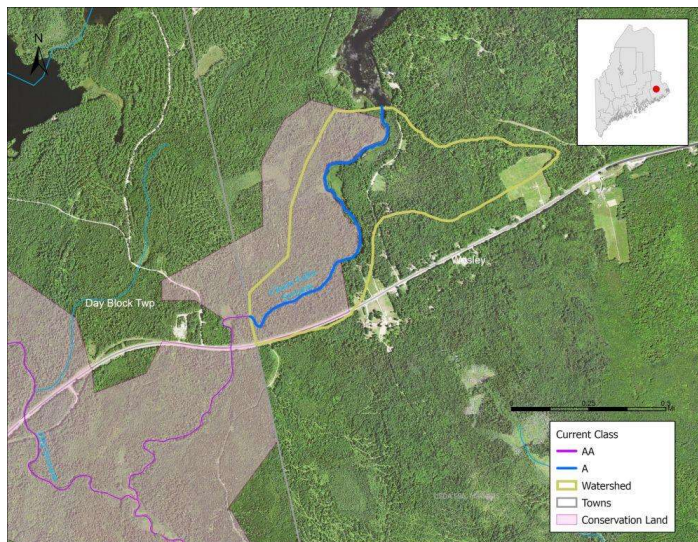
Orbeton Stream and Tributaries



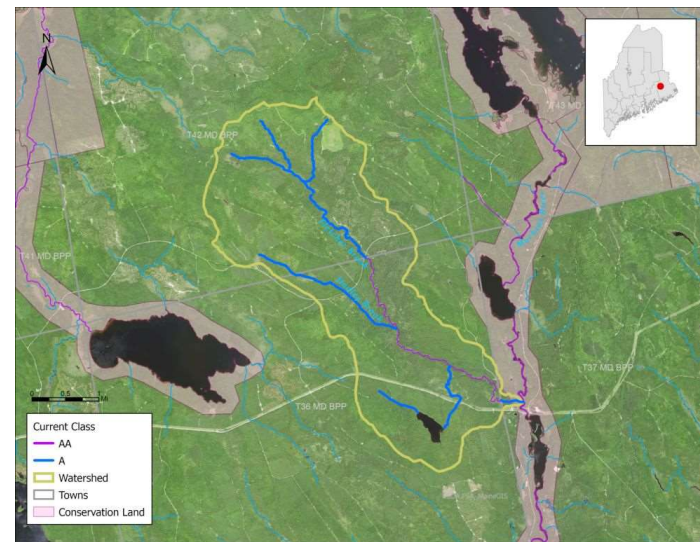
Class A to Class AA

Machias River Basin

Chain Lakes Stream

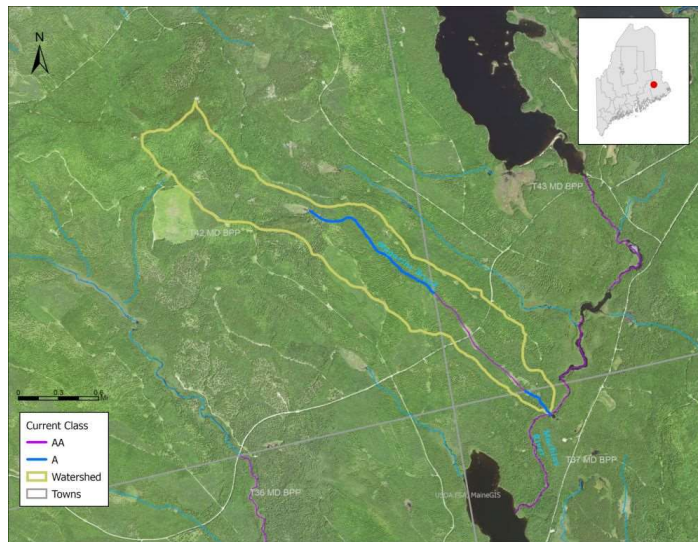


Fletcher Brook and Tributaries

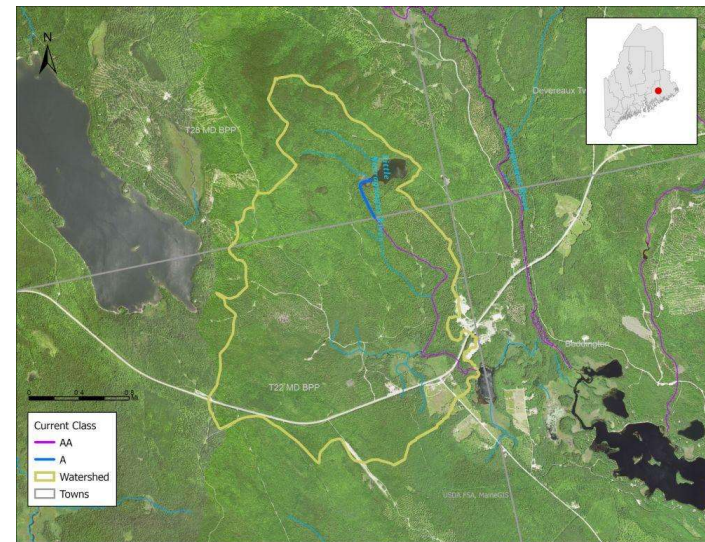


Class A to Class AA

Machias River Basin Magazine Brook



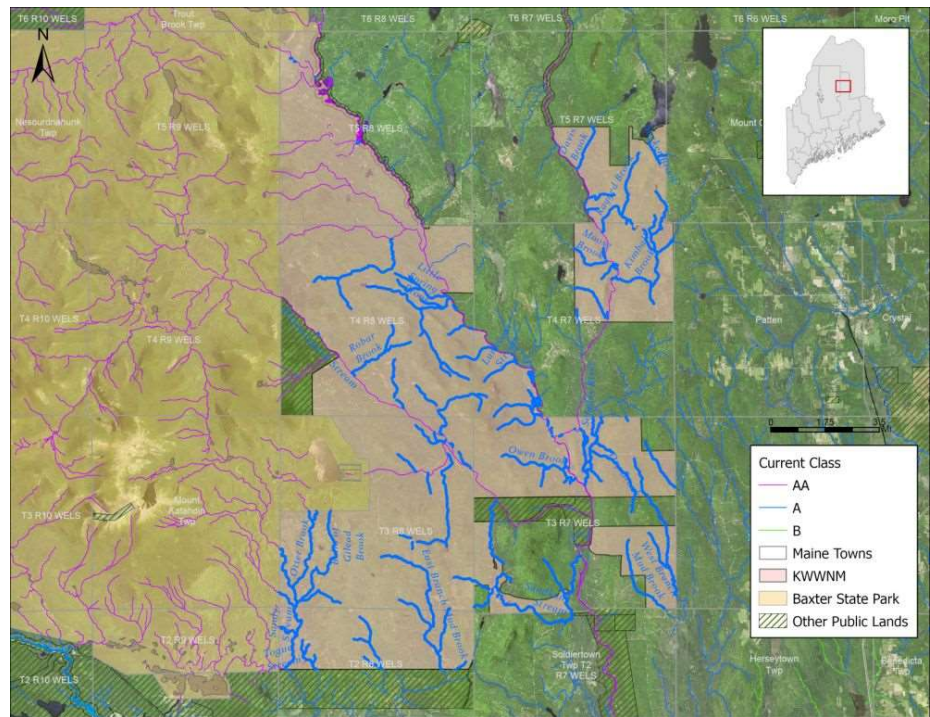
Narraguagus River Basin Little Narraguagus River



Class A to Class AA

Penobscot River Basin

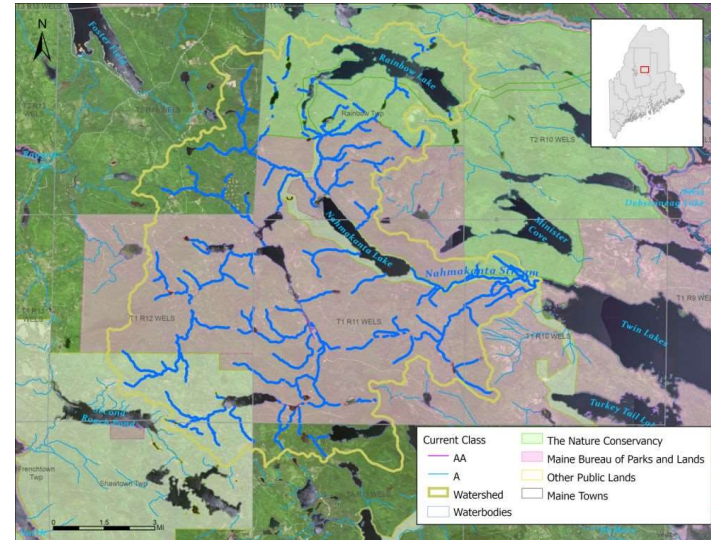
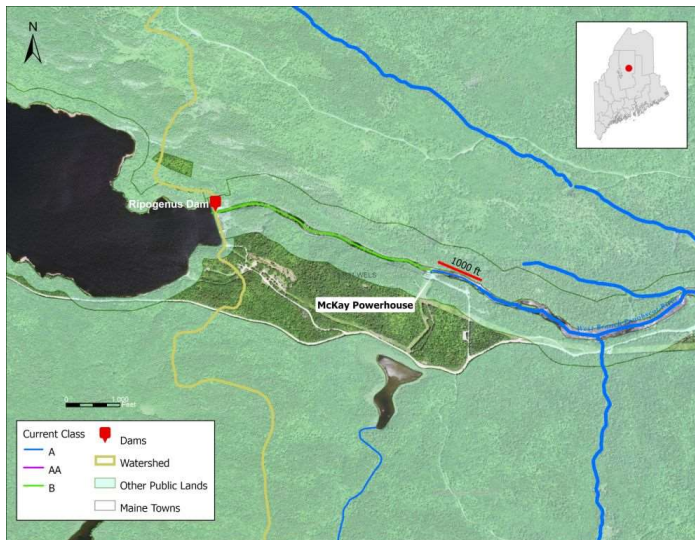
**Tributaries to
East and West
Branches
Penobscot River
in KWWNM**



Class A to Class AA

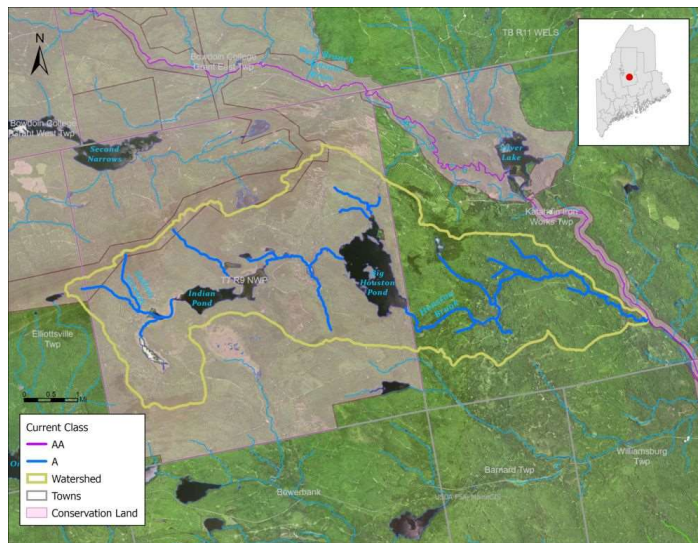
Penobscot River Basin

West Branch Penobscot River and Tributaries

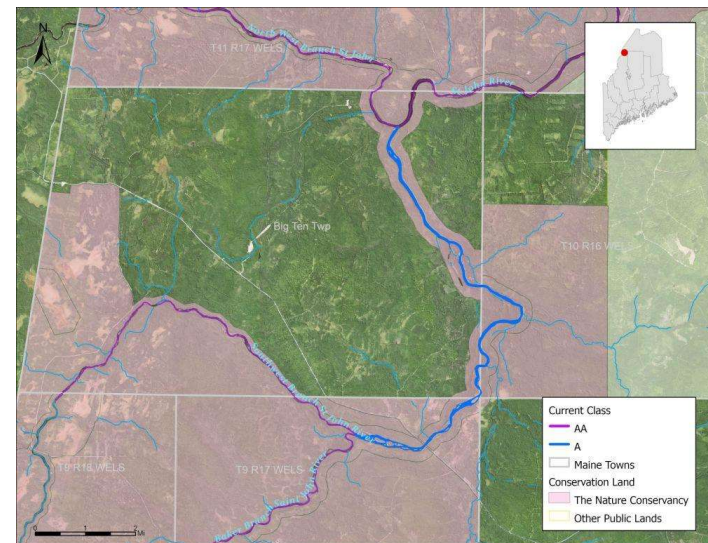


Class A to Class AA

Penobscot River Basin Houston Brook and Tributaries

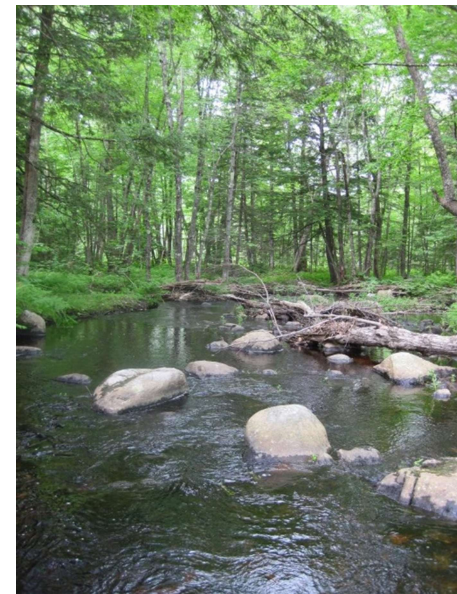


St. John River Basin Southwest Branch St. John River



Class B to Class A

- Location:
 - Androscoggin (2 proposals), Kennebec (1) and Penobscot (2) River basins, Hancock county (1)
- Proposed by: DEP and The Nature Conservancy (Hancock county)

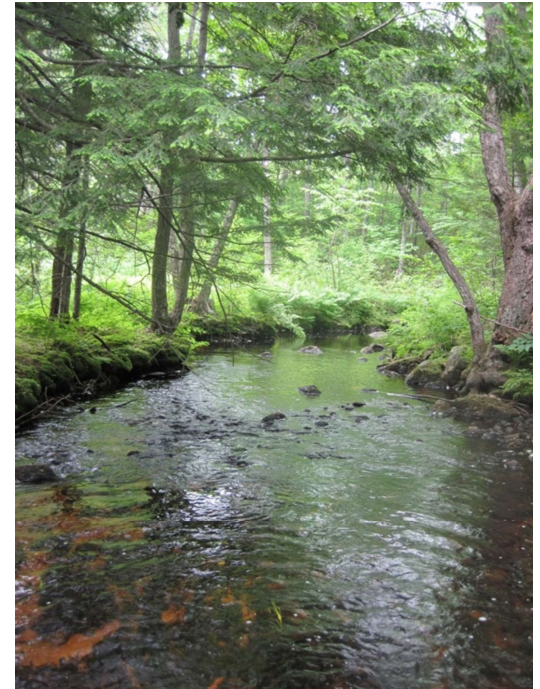


Bunganock Brook, Hartford



Class B to Class A

- Basis for proposals:
 - Upgrade tributaries to protect Class A mainstem (4)
 - Salmon protection (1)
 - Create uniform class across protected Public Reserve land (1)
 - Forested watershed (all)



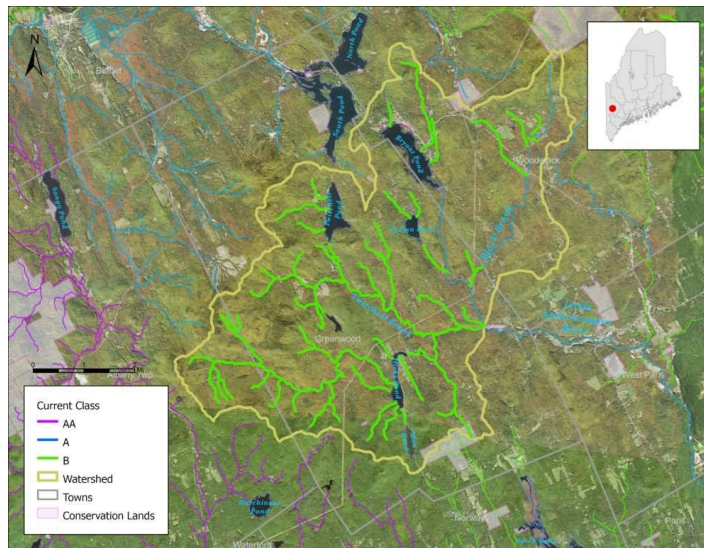
East Branch Nezinscot River, Peru



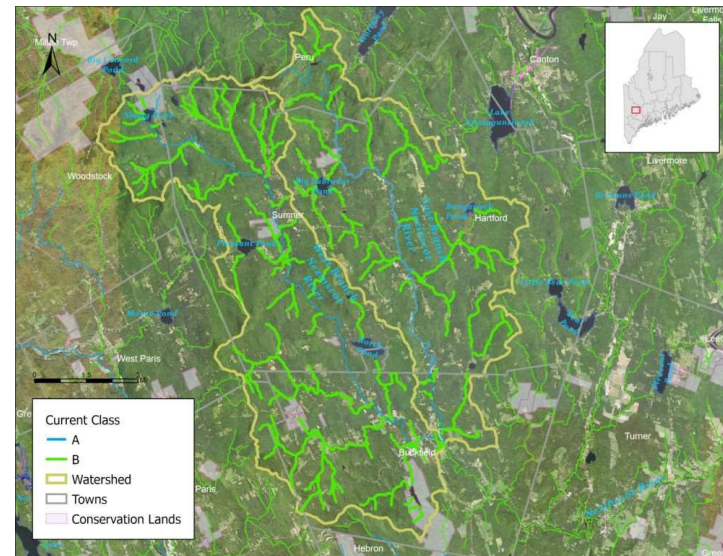
Class B to Class A

Androscoggin River Basin

Tributaries Little Androscoggin River



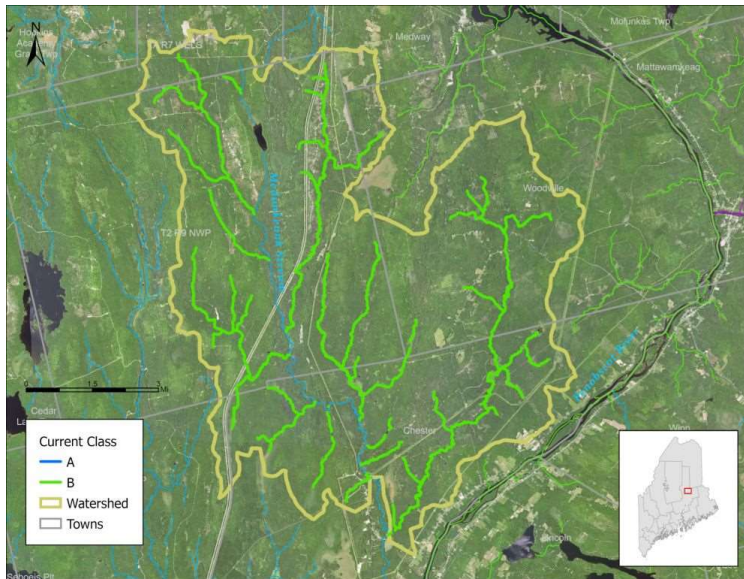
Tributaries East and West Branches Nezinscot River



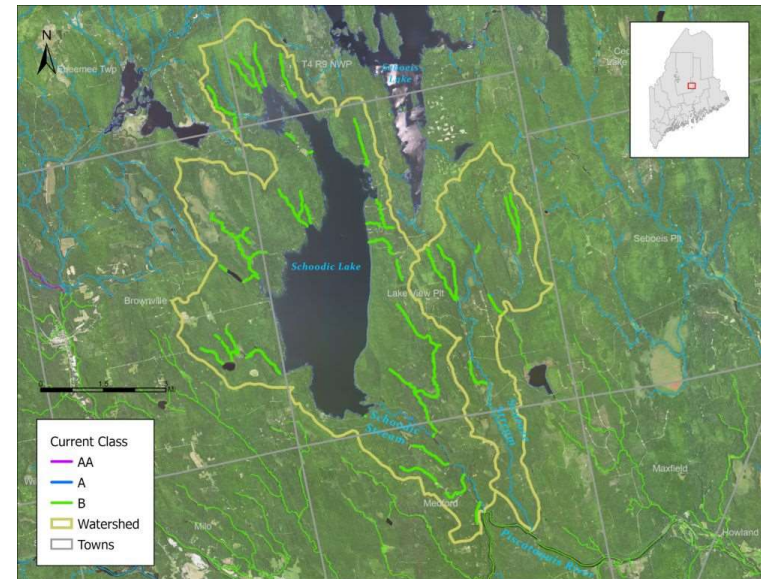
Class B to Class A

Penobscot River Basin

Tributaries Medunkeunk Stream

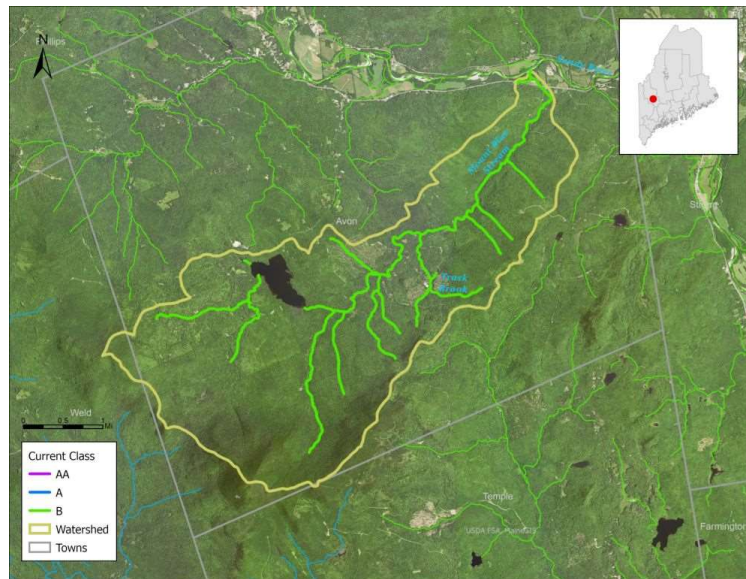


Tributaries Schoodic and Scutaze Streams

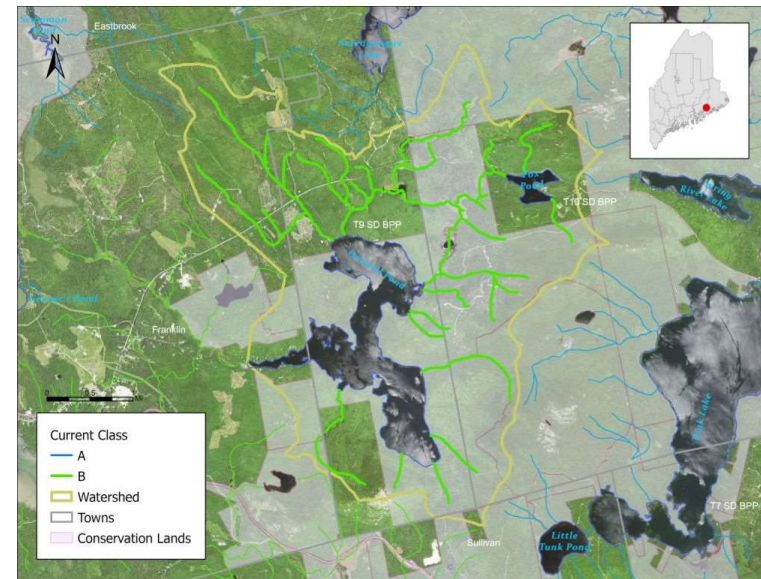


Class B to Class A

Kennebec River Basin Mount Blue Stream and Tributaries



Hancock County Tributaries Donnell Pond



Class C to Class B

- Waterbodies:
 - Cambolasse Stream in Lincoln
 - Long Creek in Westbrook
- Proposed by: DEP and EPA
- Basis for proposals:
 - Cambolasse Stream: discharge removed, WQS attained
 - Long Creek: downgrade from Class B to C in 2009 was not done with a UAA → return to Class B

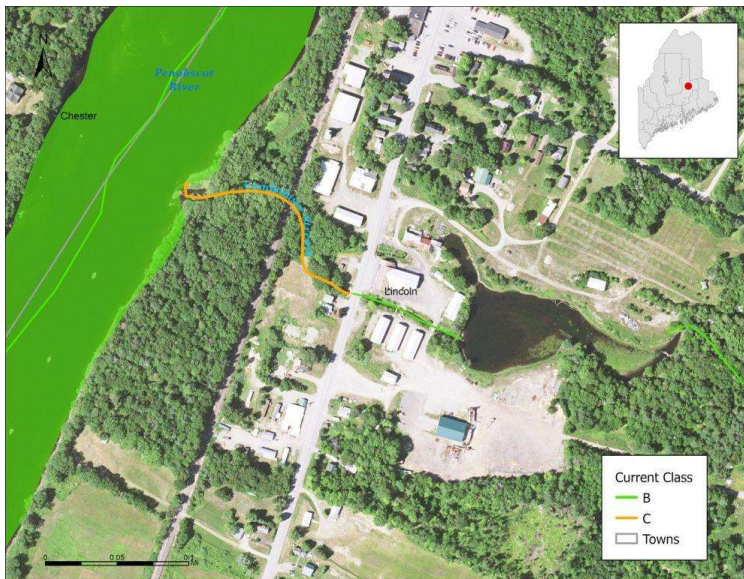


Long Creek, Westbrook

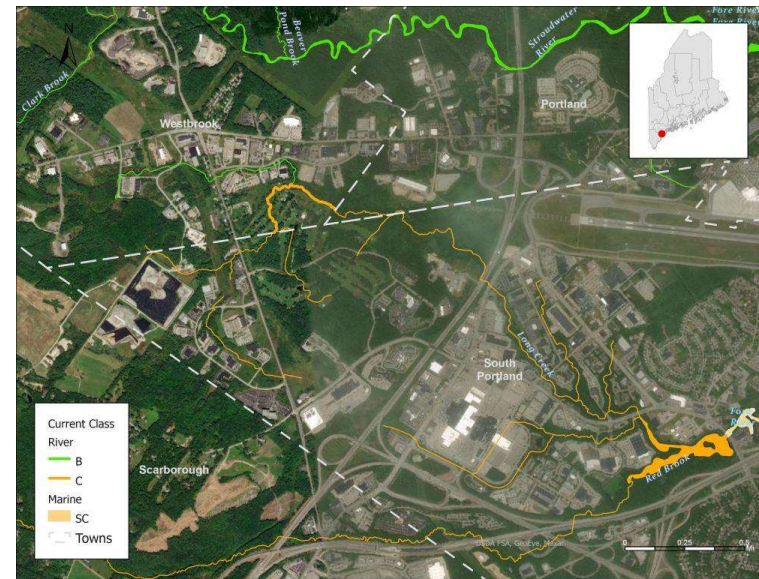


Class C to Class B

Penobscot River Basin Cambolasse Stream



Cumberland County Long Creek



Proposals Not Recommended for Action Class C to Class B

- Lower Androscoggin River
- Lower Presumpscot River



Lower Androscoggin River

- Location: Gulf Island Pond Dam to Merrymeeting Bay
- Proposed by: Friends of Merrymeeting Bay and Grow L/A
- Basis for proposal:
 - Water quality mostly meets Class B (has since 2006)
 - Benefits to users, economy, wildlife, Merrymeeting Bay



Lower Androscoggin River

- Issues:
 - Water quality does not always meet Class B
 - Several pollution sources and stressors
 - Class C upstream
 - 2011 DEP water quality modeling report – WQS not always met, even without discharges
 - Gulf Island Pond contributes low DO water

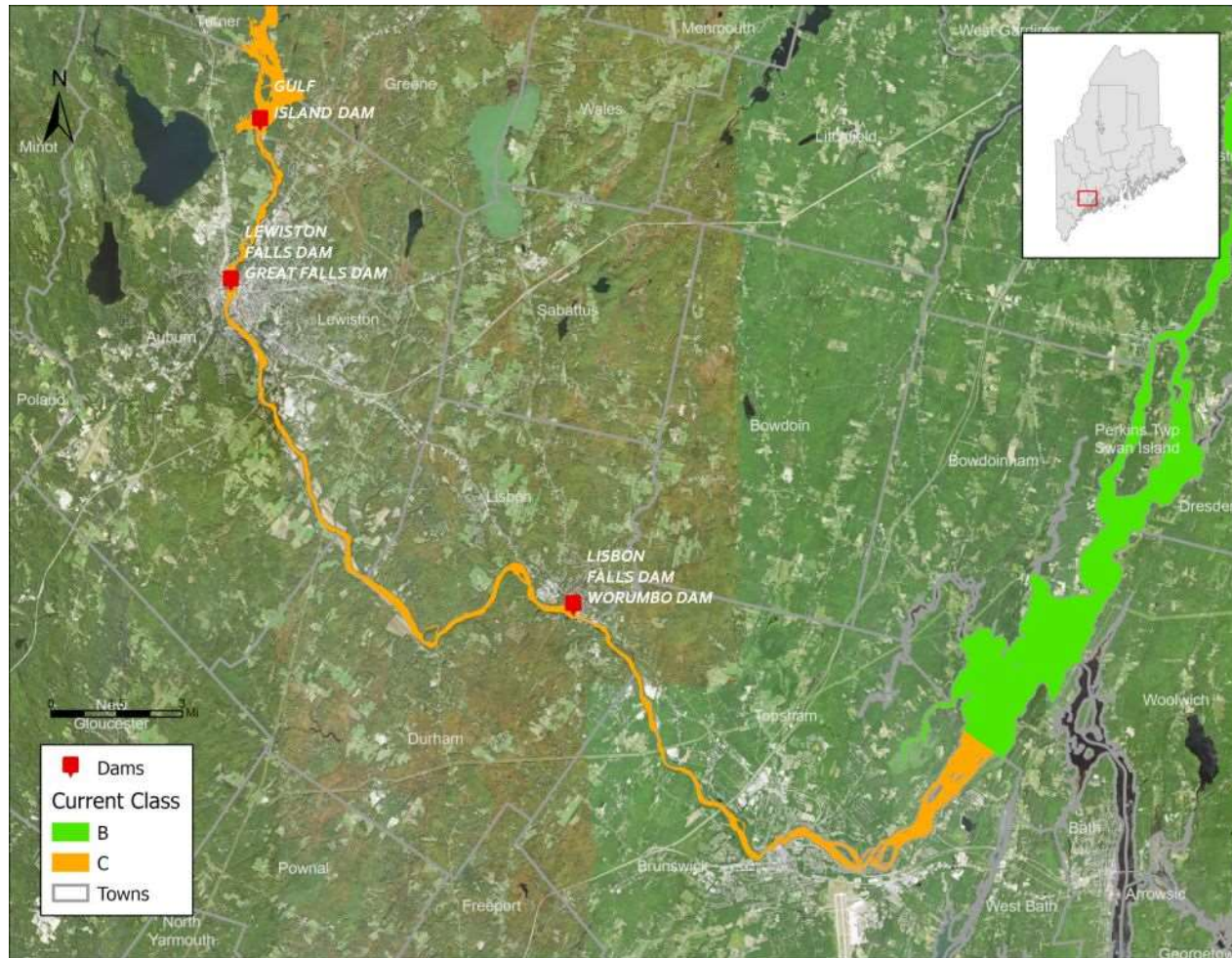


Lower Androscoggin River

- Current Legislative session – LD 676
 - Same proposal as part of TR
 - DEP does not support
 - Public hearing – supporters and opponents
 - Work session ‘defer to next session to let TR play out and get additional support’



Lower Androscoggin River



Lower Presumpscot River

- Location: Saccarappa Falls to tidewater
- Proposed by: Friends of the Presumpscot River
- Basis for proposal:
 - Reduction in discharges, dam removal
 - Water quality mostly meets Class B
 - Upstream, tributaries are Class B
 - Benefits to downstream waters



Saccarappa Falls (Main Street Maine)

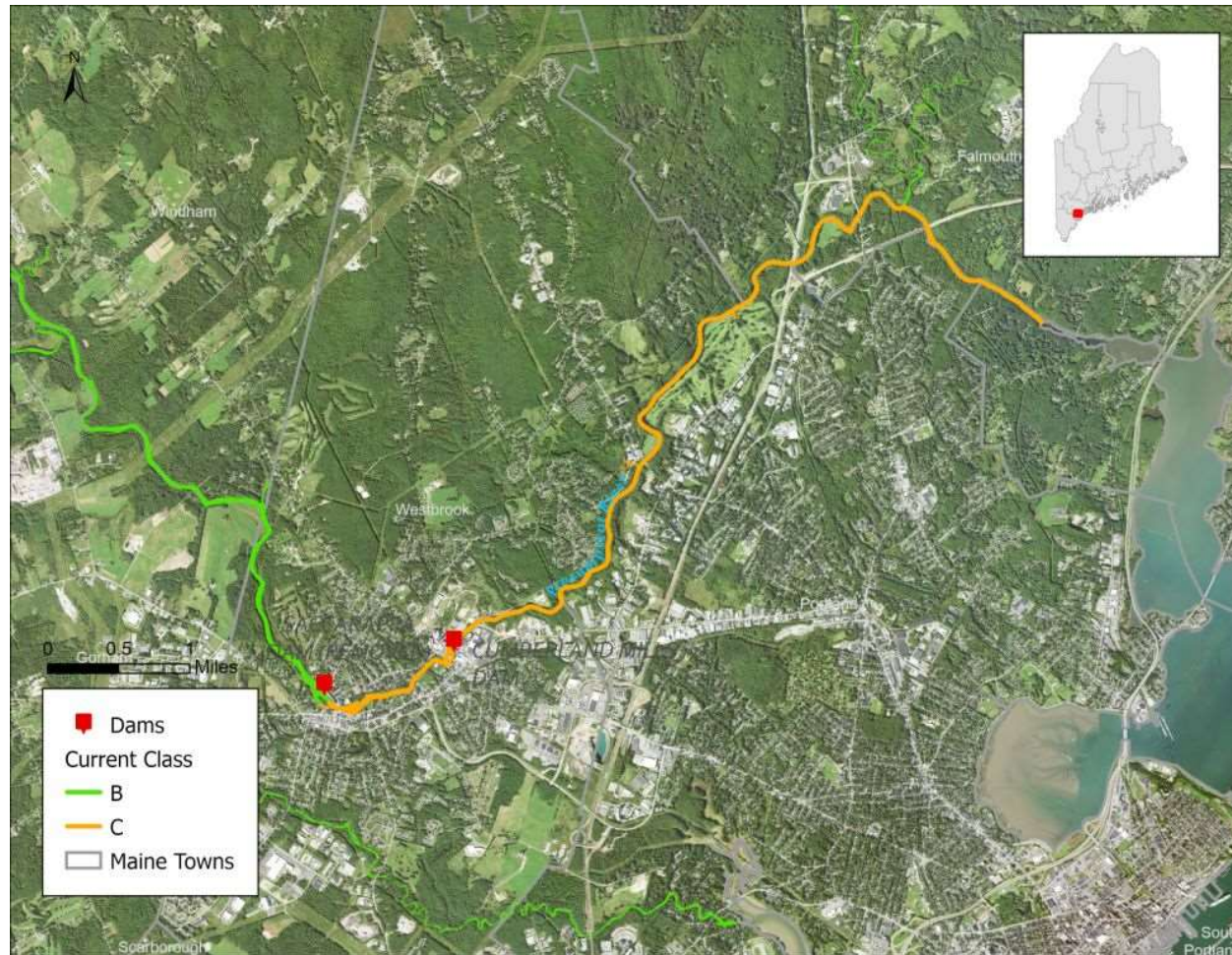


Lower Presumpscot River

- Issues:
 - Insufficient information to assess full Class B attainment
 - Will collect additional data to assess attainment and update existing water quality model to assess permitting issues to inform future upgrade decision



Lower Presumpscot River



For More Information

Triennial Review

www.maine.gov/dep/water/wqs/triennial-review.html

Opportunity for Comment

www.maine.gov/dep/comment/index.html

Water Quality Standards

www.maine.gov/dep/water/wqs/index.html

Classification Maps (current and historical)

www.maine.gov/dep/gis/datamaps/





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